

Introduction

Increasing number of long-lasting neurological symptoms have been reported after resolution of COVID-19 infection. The pathophysiology of the post-COVID syndrome, also known as “long haul COVID”, is unknown, but there is emerging evidence of involvement of autonomic nervous system in this population.

Here we present two cases where patients developed POTS after COVID-19 infection. POTS can occur from inflammation of sympathetic ganglia that results in vasomotor dysfunction, and up to 50% POTS is thought to be immune-mediated in nature. We believe POTS is potentially a debilitating complication from COVID-19 infection.

In mid-June, she developed acute onset of severe fatigue, orthostatic intolerance, and brain fog. Orthostatic vital signs showed heart rate of 63 on sitting that increases to 127 bpm on standing within 10 minutes, while reproducing her typical symptoms. The diagnosis of POTS was made, and she has responded to volume expansion therapy.

Case#2

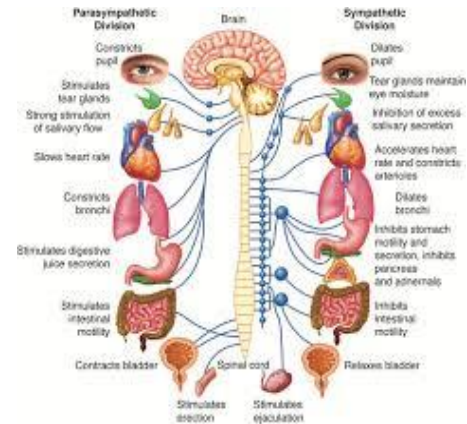
47 year-old female developed a pneumonia from COVID-19 in April 2020 that lasted for 33 days. About one week after the resolution of her initial symptoms, she developed severe fatigue, exertional dyspnea, and chronic vomiting. During HUT, her hear rate increased from 79 to 118 bpm within 10 minutes, while reproducing her typical symptoms. POTS was confirmed.

It is diagnosed by increasing heart rate by at least 30 bpm in adults and 40 bpm in pediatric within the initial 10 minutes of standing or head-up tilt (HUT) in the absence of orthostatic hypotension. (4) Since both long-haul COVID-19 and POTS present as multi-systemic syndrome, there is a critical need for a multidisciplinary approach for their treatment.

Conclusion

POTS can occur as a long-lasting neurological complication of COVID-19. As the etiologies of Post-COVIDPOTS is not fully understood, further research is warranted.

Images



Case Description

Case #1
47 year-old female was tested positive for COVID-19 in April 2020. She developed severe upper respiratory symptoms that lasted about 2 weeks. She fully recovered from COVID19 infection initially.

Discussion

We presented two cases of POTS as long-COVID syndrome. A few case reports of dysautonomia after COVID infection has been published recently⁽¹⁾. POTS is a form of dysautonomia identified as a positional tachycardia in the presence of orthostatic intolerance. (2,3)

Images

TILT TESTING



References

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4. Bryarly M, Phillips LT, Fu Q, Vernino S, Levine BD. POTS: JACC Focus Seminar. J Am Coll Cardiol. 2019 Mar 19;73(10):1207-1228.